PLATE II.

Fig. 1. *Villogorgia rubra*, n. sp., p. 48. The colony, natural size.
2. *Villogorgia rubra*. Some spicules, (*a*) of the operculum, (*b*) of the polyp, (*c*) of the cœnenchyma.
3. *Villogorgia rubra*. Three polyps, magnified, to show the operculum closed.
4. *Villogorgia rubra*. Two rays of the operculum.

PLATE III.

Fig. 1. *Muricella flexilis*, n. sp., p. 49. The colony, natural size.
2. *Muricella flexilis*. Some spicules.
3. *Muricella tenera*, p. 50. The colony, natural size.
4. *Muricella tenera*. Some spicules.

PLATE IV.

Fig. 1. *Euplexaura antipathes*, p. 51. The lower part of the colony, × 1, to show the stony basal enlargement.
2. *Euplexaura antipathes*. A small portion of a microscopical section of the basal part, decalcified, showing the horny matrix.

## 4. Notes on a Collection of Gephyrean Worms formed at Christmas Island (Indian Ocean) by Mr. C. W. Andrews.

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The small collection of Gephyrea gathered by Mr. C. W. Andrews at Christmas Island (Indian Ocean), which, owing to the kindness of Professor F. Jeffrey Bell, I have been able to examine, contains one species of Echiurid and five of Sipunculid worms. No species is new, but, as I have pointed out in another place[1], the part of the world whence this collection comes has been carefully searched for Gephyrea, and the two chief authorities on the Sipunculoidea treat of specimens from this region of the earth; so that an absence of undescribed species is what might have been expected.

Together with this collection came a small bottle labelled "Queen Charlotte's Island, B.C., Rev. J. N. Keen." This contained four specimens of a Sipunculid that I recognize as *Physcosoma japonicum* Grube[2]. This species has hitherto been known from Northern Japan, Hakodate, Enosima, and from the coast of Australia. It has not hitherto, so far as I know, been found on the east side of the Pacific, and Mr. Keen's discovery of it on the American coast materially increases its range.

[1] Zoological Results etc. Willey, Cambridge, pt. ii. 1898, p. 151.
[2] Selenka, Die Sipunculiden, Wiesbaden, 1883, p. 76.

## Echiuroidea.

### Thalassema Gaertner.

1. Th. baronii Greef.

Greef, SB. Ges. Naturw. Marburg, 4 July, 1872, p. 106; 4 May, 1877, p. 68; and Acta Ac. German. vol. xli. pt. ii. p. 1.

Selenka, Gephyrea, 'Challenger' Report, vol. xiii. pt. xxxvi. p. 1.

Fischer, Abh. Ver. Hamburg, vol. xiii. 1895, p. 1.

A single specimen of this species represented the Echiurids in Mr. Andrews's collection. At first sight I took the animal to be an example of Fischer's species *Th. pellucidum*, which he remarks has certain resemblances with *Th. baronii*. It was about the same size as Fischer's examples, and the colour, which may have been altered by spirit, was similar to that of the young spirit examples of *Th. pellucidum*. Fischer states that in the older specimens the colour is bluish, and it is possible that the green tinge with its violet stripes which Greef describes in *Th. baronii* are only acquired with age. On the other hand, the specimen described by Selenka in the 'Challenger' Report from Bahia had lost its colour.

There can be no doubt that this specimen was a young form; including the proboscis it was about 3 cm. long, whilst the adults of Greef attain four times this length.

The structures on which I chiefly based my identification were: (i) the two pairs of nephridia, found also in *Th. formosulum* and *Th. exilii*, where, however, there are eight bands of longitudinal muscles, and in *Th. pellucidum*, where there are thirteen; (ii) the form and shape of the "respiratory trees," which closely resemble those figured in Greef's monograph; (iii) the breaking up of the circular muscle-sheath into very fine and very numerous bands, clearly indicated by Greef in his fig. 64, plate vi.; and (iv) the number of longitudinal muscles, which is eighteen. This last point deserves some notice. In his systematic account of *Th. baronii*, Greef does not mention the number of strands of longitudinal muscle; indeed it was not until 1883 that Lampert drew attention to the importance of these structures in the determination of species. Greef, in his figure of the species in question, indicates sixteen bundles, but as the cut edges of the skin are inflected it is reasonable to suppose that a further bundle has been hidden on each side. By some unexplained error, Lampert[1] gives the number of longitudinal muscles as twenty-three; and this number has been copied by Rietsch into his 'Étude sur les Géphyriens armés ou Échiuriens'[2]. Fischer has recently re-investigated the original specimens of Greef and has found in them 18–19 muscles.

*Locality*. Greef found his examples amongst the lava blocks and stones at low tide at Arrecife on Lanzarote, one of the Canary

[1] Zeitschr. wiss. Zool. vol. xxxix. 1883, p. 334.

[2] Geneva, 1886, or Recueil Zoologique Suisse, vol. iii. p. 505.

Islands. Selenka's specimen was taken at Bahia, 7–20 fathoms; Mr. Andrews's at Christmas Island.

### Sipunculoidea.

#### Aspidosiphon Grube.

2. Aspidosiphon ravus Sluiter.

Sluiter, Natuurk. Tijdschr. Nederl. Ind., Bd. xli. 1881, p. 495.

Shipley, Zool. Results etc. Willey, Cambridge, pt. ii. 1898.

A single specimen from Christmas Island extends the range of this species. Dr. Willey collected it at Sandal Bay, Lifu, and Sluiter, who described the species, records it amongst the Malay Gephyrea, but unfortunately gives no more precise locality.

#### Cloeosiphon Grube.

3. Cloeosiphon aspergillum Quatrefages.

Quatrefages, Histoire Naturelle des Annélés, vol. ii. 1865, p. 605.

Grube, Jahresber. Schlesisch. Ges. 1867, p. 48.

Selenka, Die Sipunculiden, Wiesbaden, 1883, p. 126.

Fischer, Zoolog. Forschungsreisen in Australien, Semon, vol. v. 1896, p. 338.

Shipley, Zoological Results etc. Willey, Cambridge, pt. ii. 1898.

A single small specimen measuring some 2 cm. in length. Dr. W. Fischer has recently recorded it from Thursday Island, Samoa, whence it extends throughout the south-west Pacific and Indian Oceans.

#### Physcosoma [1] Selenka.

4. Physcosoma microdontoton Sluiter.

Sluiter, Natuurk. Tijdschr. Nederl. Ind., Bd. xlv. p. 506.

Shipley, P. Z. S. 1898, p. 471.

One specimen, which, like those collected by Mr. Stanley Gardiner at Funafuti and Rotuma, was very much longer than the examples described by Sluiter. He, however, found no reproductive organs, so that it is possible his form was immature and not fully grown. The characteristic long nephridia reaching to the posterior end of the body—also found in *Ph. pacificum*—are well marked.

5. Physcosoma scolops Selenka & de Man.

Selenka, Die Sipunculiden, Wiesbaden, 1883, p. 126.

Shipley, P. Z. S. 1898, p. 468.

Shipley, Zoological Results etc. Willey, Cambridge, pt. ii. 1898.

[1] Zool. Anz. vol. xx. 1897, p. 460.